



68X2214  
S68X-2214-0  
April 1987

**First Edition (April 1987)**

**The following paragraph does not apply to the United Kingdom or any country where such provisions are inconsistent with local law:** INTERNATIONAL BUSINESS MACHINES CORPORATION PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This publication could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. IBM may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time.

It is possible that this publication may contain reference to, or information about, IBM products (machines and programs), programming, or services that are not announced in your country. Such references or information must not be construed to mean that IBM intends to announce such IBM products, programming, or services in your country.

Requests for copies of this publication and for technical information about IBM products should be made to your IBM Authorized Dealer or your IBM Marketing Representative.

The following statement applies to all IBM Personal Computer products unless otherwise indicated by the information referring to that product.

**Federal Communications Commission (FCC) Statement**

**Warning:** This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer when this computer is operated in a residential environment. Operation with noncertified peripherals is likely to result in interference to radio and TV reception.

**CAUTION**

**This product is equipped with a 3-wire power cord and plug for the user's safety. Use this power cord in conjunction with a properly grounded electrical outlet to avoid electrical shock.**



---

## **Contents**

Description .....	1
Vertical Modes .....	2
Signals .....	2
Connector .....	3
Specifications .....	4



---

## Description

The IBM Personal System/2™ Color Display 8514 is a direct-drive analog display which offers a range of screen display modes, with picture height adjustment and line switching by external control. The display has a power switch, power-on indicator, and controls for brightness and contrast. It comes with a detachable tilt-and-swivel stand.

### Models:

- 100-125 Vac 50-60 Hz, Northern Hemisphere
- 200-240 Vac 50 Hz, Northern Hemisphere
- 200-240 Vac 50 Hz, Southern Hemisphere.

### Characteristics:

- Vertical addressability of 350, 400, 480, or 768 lines
- Video bandwidth of 45 Mhz
- Self-test with a white screen test pattern
- 75-ohm direct-drive analog video input, 0.0 Vdc - 0.7 Vdc
- 380 mm (16 in.) cathode ray tube
- 0.31 mm dot pitch
- Etched, anti-glare dark faceplate
- Type XE (medium persistence) phosphor
- Horizontal deflection rate of 31.5 kHz  $\pm$  0.5 kHz, or 35.5 kHz in 1024 x 768 mode
- Horizontal blanking time of 5.7  $\mu$ s, or 5.35  $\mu$ s in 1024 x 768 mode
- Vertical deflection rate of 50 to 70 Hz (50 to 60 Hz for 480 scan line mode), or 43.48 Hz with 2:1 interlace (1024 x 768 mode)
- Vertical blanking time of 0.92 ms, or 690 us in 1024 x 768 mode
- Automatic degaussing
- 1.8 m (6 ft.) signal cable with a miniature 15-pin D-shell connector
- 1.8 m (6 ft.) detachable power cable.

---

## Vertical Modes

The display monitors the polarity of the synchronization pulses from the video controller and selects the number of scan lines according to the following figure.

HSync	Polarity	VSync	Data Scan Lines	Data & Border Scan Lines
+	—	—	350	362
—	+	—	400	414
—	—	—	480	496
+	+	—	1024	768

Figure 1-1. Vertical Modes

---

## Signals

The display receives the video signals from a current source with a 150-ohm termination. The signal input impedance is 75 ohms. The video signals have a range of 0.0 to 0.7 Vdc. The vertical synchronization pulse width is 63.556  $\mu$ s, or 112.6  $\mu$ s in 1024 x 768 mode. The horizontal synchronization pulse width is 3.813  $\mu$ s, or 3.92  $\mu$ s in 1024 x 768 mode.

---

## Connector

The following figure shows the pin numbering and signal assignments for the display connector.

Connector	Signal Name
1	Video Red
2	Video Green
3	Video Blue
4	ID Bit 2 Out
5	Self-Test
6	Video Red Return
7	Video Green Return
8	Video Blue Return
9	Key (No Pin)
10	Ground
11	ID Bit 0 Out
12	ID Bit 1 Out
13	Horizontal Sync.
14	Vertical Sync.
15	Reserved

Figure 1-2. Pin Numbering and Signal Assignments

## Specifications

**Size:**

Width .....	400 mm (15.7 in.)
Depth .....	415 mm (16.3 in.)
Height (with stand).....	360 mm (14.2 in.)
Height (without stand) .....	320 mm (12.6 in.)

**Weight** (with stand)..... 18.5 kg (41 lb.)

**Power Cable:**

Length .....	1.8 m (6 ft.)
--------------	---------------

**Signal Cable:**

Length .....	1.8 m (6 ft.)
--------------	---------------

**Operational Environment:**

Temperature .....	15°C to 32.2°C (60°F to 90°F)
Humidity .....	8% to 80%
Altitude.....	0 to 2134 m (7000 ft.)
Heat Output.....	90 watts (307 BTU/hr)

Figure 1-3. Specifications



\*9068X22140001\*